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ABSTRACT

This collection of five issues of the PRISE Reporter focuses on concerns regarding the education of the handicapped. In addition to a major article, each issue typically includes publication reviews, test reviews, instructional material reviews, a research brief, and a listing of dissemination events. Major articles have the following titles and authors: "The Use of Music to Develop Communication Skills in Hearing Impaired Students" (S. Shandelmier); "Expanding Services to Students through Consultation," a five-step consultation program for the mildly handicapped (J. Graden); "Serving the Visually Handicapped in Rural Areas" (M. Morse); "Process Assessment: An Alternative Model for Evaluating and Diagnosing Children in Special Education" (J. Meyers and D. Lieberman); and "Transition Services for High Functioning Physically Disabled Students" (R. Melia). Research briefs report on the following topics: symbolic play behavior of language handicapped children, factors in consultative services, symbolic play development in visually impaired children, and use of the concept of "zone of proximal development" for identifying learning problems, and the provision of postschool services. (DB)

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issues and happenings in the education of the speech/hearing handicapped
no. 16, January 1985

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THE USE OF MUSIC TO DEVELOP COMMUNICATION SKILLS IN HEARING IMPAIRED STUDENTS

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A few years ago I accepted a position as a hearing clinician which entailed providing support services to hearing impaired students enrolled in a self-contained, Total Communication class. The class was operated by Montgomery County Intermediate Unit and was located in a public high school. Through the use of interpreters and tutor/notetakers, the students in the class were mainstreamed for the bulk of each day. Thus their opportunities for interaction with hearing students were increased, and their need for effective communication skills was intensified.

A creative instructional strategy was called for, both to capture the students' interest and to lead to improved communication skills. Thinking back to my own formative years, I remembered how important music, particularly contemporary/rock music, had been to me. Would it have the same impact on hearing impaired teenagers? Could it be used as a vehicle for enhancing communication skills?

A rich opportunity for trying such an approach with this class was presented through my participation in an integrated humanities curriculum. The music program outlined in this article was developed over a three-year period as one component of that curriculum. The program was conceived and taught by an I.U. team consisting of a teacher of the hearing impaired, a speech clinician, and myself, a hearing clinician. Our goals were to strengthen the students' competencies as communicators and to promote learning through integration of content. Joint projects were developed which brought together our areas of expertise while we continued instruction in our three separate strands. Literature was taught by the teacher of the hearing impaired, art by the speech clinician, and music by the hearing clinician.

Rationale: Why Music for Hearing Impaired Students?

Music, particularly contemporary music, affords numerous advantages for hearing impaired students, not the least of which is incentive for learning. It is highly motivating to teenagers, far more so than the kinds of activities they sometimes grow to expect in hearing therapy. It encourages interaction among students outside of therapy and gives them something to talk about with their hearing friends. Music is also highly enjoyable, and it lays the foundation for leisure time activity.

The inclusion of music in an integrated curriculum also provides a wealth of opportunities for learning. Language, particularly idiomatic language, is introduced and expanded, cognitive capacities are developed, and awareness of social and cultural trends and issues is increased. Music can be used to reinforce academic and speech concepts which encourages teachers and clinicians to support one another in planning and implementation for maximum effectiveness.

Music as a content area has built-in flexibility. It can be adapted to suit the needs of persons of different ages and with varying hearing losses and preferences. Constraints of space, time, equipment and financial support can be easily accommodated.

The use of music with the hearing impaired does not require an extensive musical background. It does require a genuine interest in music and an understanding of hearing loss. For those willing to experiment, there are unlimited resources: records and tapes of every type and of every musical era, music magazines, newspaper articles, TV performances and advertisements, live concerts, radio stations and radio libraries, and interested friends and relatives.

Music Program Developed to Offer Varied Experiences

At the music program's inception, I introduced each student to the components and functions of a stereo system and trained each to operate the equipment independently. High fidelity equipment was crucial to this type of endeavor because of the need to compensate for the limitations imposed by hearing loss. Adjustable volume, speed, balance, treble and bass controls were considered essential for meeting individual needs. Adjustable speakers with open backs were also necessary so that vibrations could be transmitted tactilely.

As students became comfortable with the stereo system, I began to implement a three-pronged teaching approach, the first component of which consisted of **auditory training.** A series of listening activities was devised to familiarize students with characteristics of musical sound: beat, tempo, pitch, intensity, vocalization, instrumentation, and sound effects. Songs with gross, predictable changes within one or two of these categories were presented first, followed by more complex songs with subtler changes.

While listening to music, students were expected to assume responsibility for their own personal hearing needs and to recognize the needs of others. This required them to adjust the equipment and their respective seating arrangements, which in turn required cooperation and patience when students with differing needs were working together.

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The second component of the music program consisted of **lyric analysis.** The words of each song were examined in much the same way that a story might be approached in a reading class in order to develop facility with oral and written language. On a given day students might be asked to: 1) analyze story content by describing plot, character, setting, theme, main ideas, and outcomes; 2) compare/contrast the characteristics of a familiar song with known characteristics of its musical style (rock, pop, country, etc.); or 3) punctuate a familiar lyric and correct the grammar. Finally, the third component consisted of **examining rock music trends.** Public response to a recording, the significance of a news release relative to a recording artist's career, social behavior at a concert, and current media events were only a few of the topics incorporated into discussions of rock culture.

Students Respond with High Interest

The students for whom this program was designed displayed hearing losses which ranged from moderate to profound. All had been exposed to music at a younger age and had preconceptions about the nature of music courses. Upon learning of my intent to use music as a basis for developing communication skills, most assumed that they would be required to learn to "sing" and sign to music as in years past. Those who were most dependent upon their auditory sense for purposes of learning were most eager to begin again. Those with the least amount of usable hearing were self-conscious about their limitations and considerably less eager to risk their self-respect in class.

During the first term emphasis was placed upon the non-listening aspects of the course, especially with those students expressing the strongest discomfort, in order to assuage their fears. The characteristics of musical sound were integrated into lessons slowly and with extreme care.

In December of that first year, all of the students in the class requested records and tapes for Christmas and Chanukah—a small but positive indication of interest. The therapy room became a popular stopping place for hearing students, plastered as it was with posters, mobiles, and life-sized cardboard cutouts of popular musicians supplied free of charge by local record stores. The obvious interest of the hearing community had an extremely positive effect on students' motivation. A student with a physical handicap developed the confidence to stand up and dance. A deaf-blind student who displayed absolutely no appreciation for rock music, revealed a depth of understanding of country music. A student with nearly unintelligible written language skills wrote a report on a war protest song which earned him an unprecedented "A." Gradually, individual abilities were beginning to emerge.

Problems Addressed During Implementation of Program

With the accomplishments came set-backs. Rock and other forms of contemporary music frequently contain language which is at the very least idiomatic and is all too often grammatically incorrect. Artistic license was in danger of hampering all attempts to strengthen written language facility. Fortunately, carefully constructed questioning techniques enabled hearing impaired students to comprehend lyrical meanings in spite of their grammatical shortcomings.

As students began to develop a body of musical knowledge about which they could communicate with hearing and deaf associates alike, their motivation to share this information with others increased. The result? Social communication, a primary component of this endeavor.

Some doubts were expressed by adults concerning the appropriateness of rock lyric content for purposes of school instruction. Granted, some—but not all—rock lyrics are controversial. I chose to deal with the problem by carefully screening all the materials which I presented. Songs which encouraged experimentation that might be considered harmful physically, mentally, or emotionally were avoided. Since students were themselves responsible for introducing much of the music used in class, controversial selections still presented themselves from time to time. On these occasions an attempt was made to approach the differences of opinion from all perspectives.

Toward the end of the first year, the student with the least amount of hearing, the least amount of musical sense, and the greatest reluctance to participate—in short, the last "hold-out"—invested several hundred dollars in an elaborate sound system for his car, his prize possession. This event, more than any other, signified to me that the music program had succeeded. Not only with this student, but with all of the class members, it had sparked an interest in a basic component of teenage culture. It had given these hearing impaired students the means for expressing that interest by providing them with a body of knowledge about which they could communicate. And it had given them a sense of identity with hearing teenagers.

(The music portion of the humanities curriculum described above was developed by Susan Shandelmier, the literature portion by Nancy Hinchey, and the art component by Mary Ann Mellody. At the time all were staff members of the Montgomery County I.U. Program for Speech/Language, Hearing, Vision, and Preschool Services).

CURRENT CITATIONS

Atkins, Wendy and Donovan, Michele. **A Workable Music Education Program for the Hearing Impaired.** *The Volta Review,* 1984, 86(1), pp. 41-44. Since improvements in speech, physical coordination, mental alertness and sensitivity to all sounds are recognized as potential benefits of music instruction, educators have long advocated and encouraged teaching music to the hearing impaired. In a regular elementary school in the Livingston-Steuben-Wyoming Counties BOCES in Dalton, N.Y., a unique program employs the skills of a regular music teacher and a teacher of the deaf to provide a multisensory approach which encourages students to rely upon their residual hearing.

Using the philosophy of the Hungarian musician and educator, Zoltán Kodály, students whose hearing impairments range from moderately severe to profound, learn rhythm, tempo, melody, dynamics, tone color and form. These are the same concepts taught in regular elementary school music classes. An intense effort is made to teach the students to sing (defined as vocalizations on specific pitches) and not simply chant words in rhythm to instrumental accompaniment.

Primary goals of the program are to help the students to understand, appreciate and participate in music for music's sake. All other benefits are considered secondary. Students have demonstrated the ability to sing in tune with normal hearing students in mainstreamed choral groups participating in school assemblies and programs. Such successful experiences enable hearing impaired students to gain speech and social skills which are important assets to functioning in the hearing world.

Mencher, George T. and Gerber, Sanford E., eds. **The Multiply Handicapped Hearing Impaired Child.** Grune & Stratton, P.O. Box 733, Old Chelsea Station, New York, NY 10113. 1983. 480 p. $29.50. This book contains the proceedings of the Fourth Elkes International Conference on the Hearing Impaired, held in August 1982 in Edmonton, Alberta, Canada.

Contributors include leading scholars and scientists from several special education related disciplines. These authors address issues of current concern in the diagnosis and treatment of hearing impaired children with additional handicaps. Some of the topics discussed include: family counseling, education, behavior modification, and early identification and intervention. Issues of interpersonal communication between child and family, child and teacher-therapist, and clinicians and family are dealt with in some detail. In particular, a chapter by Sara McClain entitled "Working with Parents Toward Acceptance and Beyond" stresses the need for parents to be present and involved in the audiological assessment.

Mount, M., Shea, V., and Porter, P. B., eds. **How to Recognize and Assess Pre-Language Skills in the Severely Handicapped.** H & H Enterprises, Inc., Box 1070, Lawrence, KA 66044. 1982. 36 p. $3.95 (softbound). The authors define communication, language and speech as well as explaining the most common causes of language handicaps (mental retardation, cerebral palsy, hearing loss and autism). Pre-language skills are divided into six prerequisites which require that the student must: 1) be able to pay attention, 2) have something about which to communicate, 3) understand cause and effect, 4) have the desire to communicate with another person, 5) have some means to communicate and 6) have someone with whom to communicate. The authors stress that evaluation of the student's pre-language skills should include 1) several informal, relaxed sessions with simple questions and a minimum of stimuli, 2) direct observation of the student in the classroom and 3) an interview with the student's caretakers.

TEST

The **Test of Articulation Performance: Screen (TAP-S)** is an individually administered standardized test designed to detect articulation problems in children 3 to 8 years old, who need further diagnostic assessment and probably speech therapy. The test consists of 31 items, each of which is an isolated word containing key English phonemes. The words are either elicited spontaneously, using a stimulus picture and sentence as the prompt, or by asking the child to repeat the word spoken by the examiner. Each item is scored by comparing the child's articulation with production of Standard English phonemes. Administration of **TAP-S** takes approximately five minutes. Norm tables are provided for children between the ages of 3 and 9 and are available for both the spontaneous and imitative formats. Stimulus cards, record sheets and a manual are included.

The **Test of Articulation Performance: Diagnostic (TAP-D)**, a companion program to **TAP-S**, is a non-standardized, diagnostic test designed to provide information that is useful in planning and implementing remedial programs for children 3 to 8 years old. This information is acquired by analyzing the child's phonemic errors in terms of their distinctive features (place, manner, voicing), and his or her ability to (a) articulate phonemes in isolated words, (b) form phonemes when they occur in conjunction with adjacent phonemes (deep testing), (c) articulate phonemes in continuous speech, and (d) articulate correctly as the result of modeling (stimulability). **TAP-D** also analyzes the child's attitude and that of others towards his or her communicative competence. An examiner's manual which describes the construction of the test as well as reliability and validity is included, along with picture cards and test/score sheets.

ProED, 5341 Industrial Oaks Blvd., Austin, TX 78735. 1983. Complete Kit (Screen) - $38.00; Complete Kit (Diagnostic) - $68.00.

INSTRUCTIONAL MATERIAL

The **Visible Speech Aid for the Hearing Impaired** is a microcomputer package consisting of a hardware device used in conjunction with special software. It is designed to assist teachers of the hearing impaired, speech clinicians, and hearing therapists in the complex task of speech instruction. The hardware consists of a microphone and a peripheral interface card which attaches to an Apple II Plus microcomputer. The software is a series of integrated programs that interpret and process signals picked up by the microphone and display them in patterns on the Apple II's monitor.

The package is intended for use with severely to profoundly deaf children of elementary school age. It is primarily an interactive device to assist the teacher/clinician in training the deaf child in speech, but can also be used as a self-instructional device to support this training, enabling the child to practice newly learned speech skills. The teacher's instructional sample can appear in the upper sector of the monitor with the student's sample directly below it. A visual comparison of the two samples provides feedback to the child and indicates to the teacher the student's proficiency.

The program has three characteristics from which to choose for training sessions: rhythm, pitch, and amplitude. The rhythm display is for use with young children and shows a block of color to indicate periodic vocal fold vibration (voicing through time). The pitch display is used for teaching the meaning of pitch in words and sentences and is triggered by vowels or voicing. The amplitude display fits into several stages of teaching speech. At the most basic level, students can be taught how to use noises/voicing to make a "drawing" on the screen. With students who are either aphonic, dysphonic or who have been discouraged from using voice, the amplitude display can be utilized to encourage the production of louder sounds. When a child has progressed into learning actual articulation of speech sounds, the amplitude display can be used to show contrasts between sounds.

The **Visible Speech Aid for the Hearing Impaired** is available for demonstration by contacting Technical Assistance for Sensory Impaired Programs (TASIP), 150 S. Progress Ave., Harrisburg, PA 17109, (717) 657-5840 or (800) 222-SERC. (Reviewed by Loline Saras, TASIP Consultant).

Software Research Corporation, Discovery Park, University of Victoria, P.O. Box 1700, Victoria, B. C., Canada V8W 2Y2, (604) 477-7246. $900.00.

VIDEOCASSETTE

Finding a Voice is a videocassette which explains how computer technology has revolutionized life for Dick Boydell and others like him, born with cerebral palsy and unable to speak. The videocassette was filmed at the Artificial Language Laboratory, Michigan State University at East Lansing, and shown in the United States on PBS's NOVA Series. It shows how technology has provided Dick with a "voice" and enabled him to become self-supporting. The complex task of adapting communication devices to fit the individual needs of persons like Dick is described by Dr. John Eulenburg, Director of the Artificial Language Laboratory.

Available in ¾" U-Matic, ½" Beta or VHS/
color/57 minutes/1983/$200.00 (Rental $75.00)

Time Life Video, P. O. Box 644, Paramus, NJ 07652. (Produced by WGBH/BBC).

DISSEMINATION HAPPENINGS

National Diffusion Network

The following program is available for adoption or adaptation through the National Diffusion Network (NDN). For further information on this or other NDN Programs, Pennsylvania educators should contact the State Facilitator, Research and Information Services for Education (RISE), 725 Caley Road, King of Prussia, PA 19406. Telephone, 215/265-6056.

Project MARRS Utilizes Amplification Technology

Through the use of soundfield amplification in the classroom Project **MARRS** has successfully improved communication and instruction for students in mainstream classes who have hearing-related academic difficulties. Developed over a three-year period for students in grades 4-6 who were found to have a minimal hearing loss and academic achievement deficits, the **MARRS** program involves the use of a lightweight cordless microphone by the regular teacher to amplify lectures and oral instructions. Typical usage is 3 hours per day, and no modification of the teacher's mobility or instructional procedures is required. Targeted students achieved and maintained improved academic scores on basic skills achievement tests. Teachers using the soundfield amplification reported a reduction in voice fatigue in addition to increased student attention.

RESEARCH BRIEF

Study Examines Symbolic Play Behavior

This study was designed to compare the symbolic play behavior of normal children with that of language-impaired children who exhibit no accompanying intellectual deficits. The primary purpose was to determine whether language-impaired children demonstrate play behavior comparable to that of normal children who are at the same level of language development.

The subjects were 15 language-impaired and 15 normal children drawn from subjects in a larger investigation of early lexical acquisition. The language-impaired children (CA, 32 to 49 months) had expressive vocabularies between 25 and 75 words and did not show productive use of word combinations. Their expressive language skills were at least one year below their chronological age level. The normal subjects (CA, 16-22 months) were also single-word users with productive vocabularies between 25 and 75 words. These children had achieved all major developmental milestones within the age range expected and had passed language and cognitive screening tests within 6 months of chronological age level.

Symbolic play was operationally defined through the Symbolic Play Test. This instrument involves observing children as they manipulate small replicas of familiar objects (e.g., chair, plate, table, doll) which are presented to the child in a standard format of four independent but sequentially ordered situations. Scoring criteria for the test are based on the number of appropriate schemas the child uses (e.g., setting the plate on the table, putting the doll on the chair).

A t test was used to compare the groups' performances. The results revealed that the language-impaired children were developmentally advanced when compared to the language-matched normal children in the level and direction of their symbolic play. Relative to age norms, however, the language-impaired children evidenced deficits in symbolic play. The results of this study suggest that (a) the link between play and language is neither direct nor immediately causal, (b) any symbolic deficit evidenced by the language-impaired children is not manifested equally in all cognitively based domains, (c) knowledge and concepts used in play are not translated directly into verbal expression, and (d) play may be one means of assessing language potential.

Terrell, B. Y., et al., **Symbolic Play in Normal and Language-Impaired Children.** *Journal of Speech and Hearing Research*, September 1984, 27(3), pp. 424-429.

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EXPANDING SERVICES TO STUDENTS THROUGH CONSULTATION

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Each year teachers of students with mild learning handicaps, such as LD and EMR, are being asked to serve more and more students with learning problems. One strategy being utilized to meet this demand is that of consultation. To the special education teacher consultation offers the following opportunities: 1) to expand your services to students with learning difficulties without increasing your direct service caseload, 2) to coordinate mainstream services for those students you serve directly, and 3) perhaps most importantly, to serve as a helpful resource to a greater number of students and teachers in your building.

Consultation, in this context, can be described as a process of problem solving between a consultant (special education teacher) and a consultee (regular classroom teacher) in which a collaborative, positive working relationship is formed. The purpose is to identify and define the problem to be worked on, analyze the components of the problem, design and implement a plan to alleviate the problem, and evaluate the effectiveness of the plan. In the following article, the steps involved in the consultation process are described, through tracing a case example of a type of student commonly reported to LD teachers.

The case example I have chosen is that of Andy, a student receiving direct LD service for reading. Andy performs very well one-to-one in the resource room (stays on task, works accurately), but then seems to have great difficulty doing the same kind of work in his mainstream reading group (doesn't pay attention to directions, doesn't complete work). As Andy's LD teacher, you have at least two options: 1) keep Andy in the resource room for all of his reading instruction, or 2) consult with Andy's regular classroom teacher to try and help him utilize in the mainstream setting the skills you know he has. Selecting the second option is consistent with our goal in special education of preparing students to function in the mainstream setting as much as possible. In approaching this problem from the framework of consultation, what is your first step?

Step 1: Establish a positive, collaborative working relationship. In order to be an effective problem-solver with the classroom teacher, you need to use communication skills which will build rapport and demonstrate empathy for his or her position. You also need to establish the fact that consultation is a *shared* problem-solving exercise: you are not an expert who will tell the teacher what to do, but you can share your particular expertise to aid in solving the problem. Using our case example, you might begin to establish a positive relationship by talking with Andy's teacher about your concern that Andy has better skills than he is currently displaying in the mainstream. You could express empathy for the teacher's problems with a large class and numerous demands, and then offer to collaborate on a plan to help Andy perform better in class.

Step 2: Identify and define the problem. Once you have established a problem-solving relationship, you need to specifically target the problem behaviors. As a consultant, your job is to help the teacher define the specific problem that is troublesome by identifying the discrepancy between the student's level of *current* performance on skills/behaviors and the *desired* level of performance. Pinpointing this discrepancy helps you set your goal for change. In Andy's case, the teacher has stated that Andy does not pay attention to group directions and, consequently, does not complete his independent seat work (current level). The teacher would like to see him pay attention to directions and complete at least 80% of his work (desired level). Your next step is to analyze the relevant components affecting the problem to help in coming up with an intervention plan.

Step 3: Analyze the problem. In this step, your expertise as a special education teacher is a valuable resource to the classroom teacher. Using your knowledge of instruction, alternative teaching strategies, and student learning characteristics, you can help the teacher to analyze the classroom factors affecting the problem and to aid in designing interventions. You will want to consider: 1) *instructional variables* (grouping patterns, pace of instruction, instructional strategies, mode of presentation; 2) *curriculum variables* (difficulty level of material, design and layout of pages and worksheets); 3) *setting variables* (distraction in the classroom, students' seating arrangement); and 4) *student variables* (current skill levels, time-on-task, motivators/reinforcers). In Andy's case, you and the teacher determine that he is seated in the back, is not looking at the teacher during group directions, and is looking out the window or playing with his pencil instead of working. Yet he says he really wants to be in the mainstream room with his peers. You use this information for your intervention plan.

Step 4: Plan and implement interventions. You and the teacher now collaborate in designing some possible plans for intervening. The final intervention strategy rests with the consultee because he or she is the one who must implement the

chosen plan. Your role as a consultant is to help design effective interventions by providing your expertise about alternative educational strategies and your knowledge about the student. For Andy, you and the teacher decide to try a plan that includes: 1) moving his seat to the front, 2) using cues and alerting signals to keep him on task, 3) having Andy keep a chart on his desk to monitor his own attending and work completion behavior, 4) rewarding attending and work completion with points toward a weekly free time, and 5) having Andy come to the LD resource room to complete unfinished work. The plan is then implemented and monitored for a set period, usually two weeks, and you make arrangements to check back periodically with the teacher to see how things are going.

Step 5: Evaluate the effectiveness of interventions. In this last step, you evaluate the interventions to see how well the gap is being closed between where the student was and where he or she needs to be. If the plan is working, you make arrangements to keep the plan going or to phase it out gradually. If the plan is not completely successful, you analyze why and consider some alternatives and modifications. In our example, you may find that Andy is attending to directions and completing his work on most days, so you decide to gradually increase the amount of work expected to earn the reward. An important principle in this phase of consultation is to follow up with the teacher to keep the communication lines open, and to continue problem solving as needed.

Important Factors to Consider in Consultation

If you decide to try to implement a consultative model of service in your building, or if you are already consulting with teachers, there are several factors you will want to consider. First, you will find that moving toward this model of service delivery puts new demands for role changes on special education and regular education teachers, and you will want to plan for these role changes. Some ideas to facilitate role changes include: getting more training in consultation, "selling" the service delivery model to administrators and other teachers, gaining the sanction and support of administrators, and making sure that role responsibilities are clearly understood.

A second important consideration is that of caseload, funding, and time for consultation. Indirect service (consultation) should not be seen as opposed to direct service but as compatible with it, and as an extension aimed at reaching more students. Indirect service also may be seen as including assistance to classroom teachers regarding nonhandicapped students with learning difficulties, to *prevent* those students from being inappropriately referred for special education. To facilitate the implementation of consultation services, school district administrators will need to develop systems which provide teachers time for consultation and incorporate consultation time into that allotted for caseloads.

In summary, incorporating consultation into the special education service delivery model will help reach more students and will assist students in functioning in the least restrictive educational environment. Also this process will hopefully reduce future student problems by increasing the skill and effectiveness of regular classroom teachers in working with diverse groups of students.

Janet Graden received a Ph.D. in School Psychology from the University of Minnesota and currently is Assistant Professor of School Psychology at the University of Cincinnati. As a research assistant at the Minnesota Institute for Research on Learning Disabilities, Graden implemented an intervention model of service delivery including training of consulting teachers. She has authored a training module for consulting teachers and articles on assessment, decision-making and service delivery.

CURRENT CITATIONS

Idol-Maestas, L. **Special Educator's Consultation Handbook.** Aspen Systems Corporation, 1600 Research Boulevard, Rockville, MD 20850. 1983. 356 p. $30.50. Intended primarily for special educators who provide resource support for mildly handicapped students, this book outlines field-based consultation strategies for use in a variety of content areas. The author establishes a rationale for consultation, describes several preparation programs for consulting teachers, and makes recommendations for achieving maintenance and transfer of skills from special education settings to the regular classroom. The book also reviews related research on mastery learning, data-based instruction, systematic structuring of learning environments, and direct instruction. Presented are summaries of transfer projects and specific instructional and consultation strategies designed and implemented by teacher consultants with individual students and groups of students at the elementary level. A variety of content areas is included: oral reading, reading comprehension, handwriting, spelling, arithmetic, written language, study skills, and social behavior. Also presented are a model for direct, data-based reading instruction and suggestions for consulting with parents and conducting inservice training programs.

Parsons, R. D. & Meyers, J. **Developing Consultation Skills.** Jossey-Bass, 433 California Street, San Francisco, CA 94104. 1984. 257 p. $17.95. This book emphasizes a skills approach to consultation, provides a conceptual framework linking preventive mental health service delivery to consultation, and offers a collaborative model for the process of consultation. Thirty-six exercises are included to facilitate the strengthening of skills required for effective consultation. Among these skills are: identifying and ameliorating role conflict, identifying sources of organizational resistance, developing clear goal definitions, generating intervention plans, assessing resistance to consultation, observing organizational communication, and developing outcome statements. Exercises are also interwoven with the text to help the reader understand interpersonal relationships, improve communication skills, and understand how attitudes can facilitate or inhibit collaborative relationships. In addition the author addresses the problems of mastering the stages of consultation (system entry, goal identification and definition, intervention planning and implementation, assessment of impact, and termination of consultation); polishing skills for direct and indirect service to the client, service to the consultee, and service to the system; evaluating the process and impact of consultation; and designing a pian for continuing professional development in this area.

Piersel, W. C. & Gutkin, T. B. **Resistance to School-Based Consultation: A Behavioral Analysis of the Problem.** *Psychology in the Schools,* 1983, 20, pp. 311-320. Although many psychologists, teachers and other school personnel

consider consultation to be an important aspect of service to children, studies indicate that school personnel spend a disproportionately small amount of time consulting. This article presents a theoretical discussion of resistance to school-based consultation, both at the system and building levels, to help consultants better develop and implement successful consultative interventions.

At the *system* level the authors discuss such problems as administrators who express verbal support for consultation but who make heavy demands for direct service activities, due to funding reimbursement guidelines or accountability problems. Factors to consider at the *building* level may include: extensive demands on consultees' energy and workloads in implementing a planned intervention; expectations of new behaviors which often were not included in preservice training; consultation contacts which often occur during lunch, coffee breaks, or prep hours; differing expectations of consultants and consultees regarding the outcome of a case; consultees' anxiety about being observed; uncertainty about roles and consultation procedures; and consultees' perceptions about their responsibility for the problems and for unsuccessful treatments. The authors suggest that analyzing resistance to consultation in terms of the rewards and punishments at system and building levels will help consultants deal more effectively with the realities of the school.

DISSEMINATION HAPPENINGS

National Diffusion Network

The following programs are available for adoption or adaptation through the National Diffusion Network (NDN). For further information on this or other NDN programs, Pennsylvania educators should contact the State Facilitator, Research and Information Services for Education (RISE), 725 Caley Road, King of Prussia, PA 19406. Telephone, 215/265-6056.

Project **RECIPE (Research Exchange for Computerized Individualized Programs of Education)** is an instructional management system designed to increase I.E.P. objective attainment using a microcomputer-based record-keeping system. It is approved for SLD students in grades K-6.

The **RECIPE** system provides banks of instructional objectives in the basic skill areas of reading, writing, and mathematics organized into learning maps which provide the special education teacher with an organizational pattern for planning instruction. Banks of objectives are also provided for the areas of foundation (pre-reading), articulation, socialization, and motor skills. The objectives are accompanied by two forms of a criterion-referenced assessment system and a listing of over 2400 instructional strategies correlated to each objective by number. Student activity books and audio tapes are available for 25 of the basic skill learning maps with which the target population displayed the most difficulty. Teacher guides and answer books are provided for the student activity books. Additional planning materials, parent guides, and a student reward system are built into the **RECIPE** material package and delivery system process.

Microcomputers are employed as the vehicle for storing student demographic data, creating I.E.P.'s and implementation plans, tracking student progress, and generating I.E.P.'s and Progress Reports. The **RECIPE** instructional management system may be implemented in a variety of educational settings ranging from a single classroom setting with one teacher and up to 30 students, to a district level with multiple teachers and students. Data is managed by microcomputers in all settings.

The **ROSE F. KENNEDY CENTER – COMMUNITY SCHOOL DISTRICT 8 DIAGNOSTIC INTERVENTION PROGRAM** is designed for the identification, evaluation and diagnostic instruction of Learning Disabled Children, Grades 2 through 4. The Program has developed a model of educational intervention in which urban children with learning problems can be identified by the beginning of second grade, and helped to make improvement in reading through diagnostic testing and prescriptive teaching.

The model consists of five coordinated components: 1) identification of students with school learning problems through a formula utilizing standard reading scores and teacher recommendations; 2) diagnostic psychoeducational evaluation; 3) trial lessons designed to incorporate findings about a child's overall ability and his specific strengths and weaknesses into a program of instruction; 4) establishment and monitoring of individual educational programs utilizing the results of the trial lessons as a starting point; and 5) ongoing teacher and parent training and support through teacher and parent workshops.

RESEARCH BRIEF

Study Investigates Factors in Consultation Services

This study investigates the impact of school psychologists' consultation skills, the organizational climates of schools, and principals' leadership behaviors on teachers' use of consultation services. The study was conducted in 10 urban elementary schools. Measures included the Consultant Observational Assessment Form, which was used to rate the consultative skills of the study's 10 consultants; the Organizational Climate Description Questionnaire, used to rate school organizational climate; and the Leader Behavior Description Questionnaire, used to measure principals' organizational patterns. The latter two instruments were completed by the consultants and all teachers in the 10 participating schools.

Data analysis indicates that consultant skill was the most important factor in influencing teacher use of consultation services. This finding was supported by comments made by the majority of teachers and principals interviewed in the study. Principal leadership behavior was also found to significantly influence teacher use of consultation. Teachers in schools in which principals had a high need for control used consultation services less often; consultation was more compatible with an open, less threatening atmosphere. Seven of the 10 consultants placed primary emphasis on the principal's role in determining the outcome of their consultation experiences. The authors suggest that a consultant's approach to a building principal may be critical in determining the ultimate success of that consultant. The considerable agreement found between consultants' and teachers' ratings of principal leadership behaviors and openness of school climate suggest that consultants were able to accurately gauge the organizational climate of their schools after being there for only a brief time. The authors believe that increased understanding of variables that contribute to teachers' acceptance or rejection of consultation services will be helpful in achieving expansion of consulting activities.

Bossard, M. D. & Gutkin, T. B. **The Relationship of Consultant Skill and School Organizational Characteristics with Teacher Use of School Based Consultation Services.** *School Psychology Review,* 1983, 12(1), pp. 50-56.

TRAINING MATERIAL

School Psychology in the Classroom: A Case Study Tutorial. Tucker, J. A. University of Minnesota National School Psychology Inservice Training Network, University of Minnesota, 350 Elliott Hall, 75 East River Road, Minneapolis, MN 55455. 250 pp. 1984. $12.00.

The purpose of this module is to help support services personnel (such as school psychologists and special educators serving a consultation function) to assist the regular classroom teacher in dealing with problems that arise in the classroom, without waiting for the traditional referral process. The module uses a self-instructional format but may also be used in group instruction. Six actual cases, two each representing problems at the elementary, junior high, and senior high levels are described, along with data typically available prior to formal assessment. Cases include an adolescent whose primary language is Spanish and who is experiencing academic problems; a second grader with behavior problems, including thumb-sucking; a third grader with difficulty staying on-task; a sixth grader who is acting out in class and not completing his work; an adolescent who is frequently truant or tardy; and an adolescent who does not comply with school or classroom rules.

An intervention worksheet for each case asks the reader to define the problem, list specific questions, identify sources for answers to those questions, specify short-term interventions and evaluations of those interventions, and describe planned interactions with significant individuals in the case. The responses of seven consultants to each case are provided to give the reader standards against which to judge the interventions he or she proposes. A description of the triadic model of consultation is also presented, along with a summary of basic principles of consultation and problem solving, information on what happened to the six cases presented in the module, and guidelines for use of the module in a workshop format.

TEST

BASIS (Basic Achievement Skills Individual Screener) is an individually administered achievement test that provides both norm-referenced and criterion-referenced information about a student's skills in reading, mathematics, and spelling. The test can be administered by classroom teachers or other school personnel in about an hour to students in grades 1 through 12. Post-high school adults were also included in the standardization sample, but the level of test content does not exceed the eighth grade level. Approximately 4% of the 3,064 students tested were handicapped and enrolled in mainstream classrooms; about 2% were identified as LD. Validity studies were also conducted with LD, gifted, EMH, and hearing impaired students.

BASIS assesses reading comprehension through a cloze procedure, with optional scoring of oral reading miscues. At lower levels word reading and sentence reading sections are provided, and readiness is measured by letter identification and visual discrimination tasks. The mathematics test includes a readiness subtest, computation items, and orally-dictated word problems; in the spelling test, words are dictated in sentence context. An optional writing exercise requires the student to write descriptively for ten minutes, and the student's writing is scored holistically against average sample papers for grades 3 through 8. All test questions are grouped in grade-referenced clusters. **BASIS** yields age-based and grade-based percentile ranks (with interpolated grade-based percentile ranks for testing during the second half of the school year), stanines, normal curve equivalents, grade equivalents, age equivalents, standard scores, and Rasch scaled scores for all but the optional writing sample. It is rated as below average, average or above average. Criterion-referenced scores describe student patterns of performance and suggest grade and instructional placement.

The Psychological Corporation, Saddle Brook Industrial Park, Saddle Brook, NJ 07662. 1983. Examiner's Kit (includes Manual, Content Booklet, 2 Record Forms), $37.50.

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SERVING THE VISUALLY HANDICAPPED IN RURAL AREAS

Mary T. Morse, Ed.M.

Director, MICE Program for Blind and Visually Handicapped Infants/Toddlers

Division of Public Health Services
Concord, NH

The word "blind" connotates to the general public a life lived in darkness, a condition viewed since Biblical times with fear and mysticism. The fact is that blindness encompasses a wide range of seeing/not seeing and may be present in a variety of forms and settings. Among these are the congenitally blind, the adventitiously blinded, the totally blind, the partially blind, the partially sighted, the visually handicapped/multiply impaired, and the preschooler/school-age/pre-vocational student. Thus the educational management of children and youth who are blind or visually handicapped is dependent upon many factors. Included are the diagnosed eye condition, the influence of the etiology, the degree or extent of the visual handicap, the age of onset of the visual handicap, the presence or absence of additional handicapping conditions, the range/variety and quality of experiences, and lastly, the student's motivation.

Rural Programs Face Problems

Providing the range of specialty personnel and services ideally needed to educate the visually handicapped student requires extensive resources. In the case of a rural program, it frequently becomes an overwhelming task. Personnel and services for educating a few students might include a trained vision teacher, orientation and mobility specialist, low vision clinic services, specialized equipment and materials, and a braille transcriber. Facing such a challenge could become a major educational, fiscal and administrative nightmare. Why is this so?

- It is very difficult to attract trained vision specialists to rural areas. Salaries are generally lower than in more urban areas, isolation from others in the field of vision is acute, extensive on-the-job traveling is usually required, and accessibility to medical/technical/cultural resources is difficult. Currently there is a nationwide shortage of trained vision specialists, and rural areas frequently do not have the resources to make attractive offers.
- Classroom teachers as well as medical and health service providers in rural towns may have had little experience in working with the visually handicapped. Assessments may be overly inflated or inappropriately adapted and interpreted. Intervention techniques, however well intentioned, may exacerbate a child's dependency or fail to recognize areas of need.
- Because blindness is a low incidence handicapping condition (as compared to other handicaps) and because the demographic distribution tends to be wide, families of blind and visually handicapped children may have had little or no opportunity to share feelings, concerns and ideas with other such families. Frequently this isolation results in parental misconceptions and unrealistic expectations, leading to later ramifications in the school setting.

Teacher and Administrator Share Responsibility

When the visually impaired child becomes a part of a rural school system, his or her needs will most likely be addressed by two educators: the classroom teacher and the school administrator. The following discussion considers the roles of these two persons and some creative alternatives they might pursue in providing educational services to their visually handicapped students.

Classroom Teacher: Exploring Avenues for Consultation and Training. In a rural setting, you the classroom teacher, may very well be IT—the vision teacher, the orientation and mobility specialist, and the liaison with health providers. If this is the situation, you will need to establish realistic expectations for yourself and capitalize on the practical things that you can do.

To begin, realize that there is a difference between visual *acuity* and visual *function*. Acuity may be defined as a quantitative measurement of the eye's response to light energy. Acuity is measured in the ophthalmologist's office. On the other hand, visual function is the manner in which the information received is used in normal daily activities. A classroom teacher *can* assess under what conditions a child demonstrates the highest level of visual behaviors. Structured observations of the following can tell the teacher a great deal: fixation/tracking/scanning abilities, color contrast and illumination needs, ideal object size and optimum viewing distance, visual fatigue level, and eye-hand and eye-foot coordination skills.

For assessing visual functional behaviors of children with multiple handicaps, the teacher should also consider the environmental noises, the temperature of the room, the voice tone used and whether the room is familiar or unfamiliar. Many multiply handicapped children are easily distracted from meaningful visual functioning by poor positioning. Sometimes even the teacher's clothing can be a distracting variable.

It is critical to remember that visual functional behaviors can vary between two children with the same eye condition and can also fluctuate for a singular child depending on fatigue level, stress, health and medications. Ideally, the classroom teacher should have access to a trained teacher of the blind for consultation and technical assistance. If you do not, consider the following tactics:

- Be bold and aggressive in addressing specific questions to the child's ophthalmologist and physician. For example, what is the eye condition? Is any treatment recommended? If so, specifically what kind? What is the estimated acuity and field of vision? What does this mean for the classroom and for safe and confident movement within the environment? What is the prognosis? What, if any, precautions are necessary?

- Establish a correspondence system with the American Foundation for the Blind and with a residential school for the blind. Request information on the eye condition, methods/materials and techniques, resources for parents, and special activities for which your student may be eligible.

- Submit requests to your administrator to attend regional conferences on the blind and/or to observe programs for the blind in a public school and a residential school.

- Meet with your administrator regularly to share your concerns and needs as they relate to educating your visually handicapped student.

Administrator: Investigating Cooperative Ventures, Specialized Services, Teacher Training, and Available Resources. In a rural setting you, the administrator, will be required to be creative in insuring appropriate services to the few visually handicapped students you may have in your community. You may be faced with limited funds, no available vision personnel, classroom teachers who feel ill-prepared to teach the visually handicapped, and parents who are demanding services which just are not available. A few strategies to consider are as follows:

- Survey local education agencies within a 100-mile radius in regard to their need in serving visually handicapped children. Is there a sufficient visually handicapped population for which a coalition of communities might attract a qualified vision teacher? Are there fringe benefits that might be developed to make an attractive offer? Such benefits might include a small, mobile van outfitted for working with the visually handicapped child; frequent opportunities to revitalize knowledge and gain peer support via visits to a residential school for the blind or attendance at conferences; and assistance in finding housing as well as job opportunities for a spouse.

- Establish a cooperative relationship with a residential school for the blind in order to provide on-site training of classroom teachers, peer support for a vision teacher, utilization of materials resources, and consultation and technical assistance. Inquire if the residential school has retreat learning periods which your students might attend to learn specific skills, such as braille and optacon.

- Investigate private organizations for the blind in your state to ascertain if personnel can be sub-contracted to provide components of the necessary specialized services. Request funding assistance from your state education department.

- Inquire about the feasibility of utilizing student interns from a college of optometry (for low vision assessments) and from a university graduate program which trains teachers of the visually handicapped. Although this approach provides only temporary help, you may discover an intern who would like to become a more permanent member of your community.

- A short-term, high expense tactic that can result in a long-term solution is to fund the vision training of a teacher who intends to remain in your community. This approach eliminates the common problem of retaining a staff person who discovers that rural life is not for him or her.

- Lastly, heavily utilize the resources and materials available from the American Printing House for the Blind, the Regional Deaf-Blind Center, the American Foundation for the Blind, Library Services for the Handicapped, and the Pennsylvania Resources and Information Center for Special Education. Badger for the information and help that you need.

Unlike the 1960's, the majority of today's blind and visually handicapped students are educated in their community schools. Small, rural communities have very specific problems that differ significantly from those of urban communities in providing the necessary specialized services. However, with persistence and creativity, many of these problems can be handled effectively.

Mary Morse was awarded an Ed.M. by Boston College, with a major in the Education of the Multiply Handicapped Child. For the past 10 years she has served as Director of the MICE Project (Multidisciplinary Interagency Core Evaluation) in Concord, NH. Her experience also includes that of teacher, consultant and lecturer.

DISSEMINATION HAPPENINGS

Council on Rural Special Education Promotes Service

The **American Council on Rural Special Education (ACRES)** was founded in 1981 by a group of individuals concerned with the unique problems of rural students needing special services. ACRES membership is geographically representative and includes educators from all service levels as well as parents. Among the goals of the Council are the following:

- to improve direct services to rural individuals and agencies serving students with disabilities,
- to initiate and support interagency efforts to increase educational opportunities for rural handicapped and gifted students,
- to serve as an advocate for rural special education at all levels, and
- to develop and implement a system for planning creative service delivery alternatives.

ACRES offers professionals in rural education the opportunity to develop a "close knit" rural organization at the national level. The Council sponsors institutes and conferences

which provide learning opportunities as well as interaction with colleagues and parents from across rural America. A Rural Job Referral Service and a Rural Job Exchange Service are available as well as an electronic communication system operated via SpecialNet. ACRES members receive a Resources Network book, newsletters and action bulletins.

Rural Network Targets Service for the Young Handicapped

The **Handicapped Children's Early Education Program (HCEEP) Rural Network** is made up of a group of professionals with a special interest in improving services for preschool handicapped children in rural America. Under the auspices of the organization, a Rural Network Resource Bank has been established which links individuals and agencies, both those in need of, or offering resources. Network models for rural service delivery are available, and each year a National Rural Workshop brings together leaders concerned with rural early intervention. A series of monographs has been published by the HCEEP Rural Network which are available for purchase.

The above organizations (ACRES and HCEEP Rural Network) are under the auspices of the **National Rural Development Institute.** Further information may be obtained by contacting Dr. Doris Helge, Project Director, National Rural Development Institute, Western Washington University, Bellingham, WA 98225.

MICE Project Provides System for Visually Handicapped

The Multidisciplinary Interagency Core Evaluation Project (MICE) was developed to facilitate the effective delivery of services to visually handicapped infants and children in rural communities in the state of New Hampshire. The Project provides a cost-effective linkage of existing service agencies on all levels to deliver comprehensive coordinated services to widely scattered rural populations. Although each community faces unique problems and may find it difficult to meet all the needs of individual families, a cooperative arrangement allows a number of agencies to contribute for the provision of services.

Begun in 1974, MICE has become an interagency coordinating council as well as a direct service system to families and to community agencies. Areas of service include case finding, infant evaluations, child and family program planning and implementation, and case coordination. Eight agencies appoint staff to participate in the team effort. The Director, Mary T. Morse, is responsible for insuring that the team's recommendations for preventative, promotional and treatment services are realistic and based on the best information possible.

The effectiveness of the MICE Project is demonstrated by the following findings, based on 12 years of experience:

- It is feasible to develop a systematic process of identifying blind and visually handicapped infants.
- Implementation of service is more effective when based on knowledge of normal child development and family functioning.
- Health, education, and other rehabilitative personnel must function as a single unit.
- Interagency outreach can provide service to a small population of children and families.
- Cross-sectional data on children and families can be used in fiscal and program planning.

For further information, write Mary T. Morse, Director, MICE, New Hampshire Division of Public Health, Hazen Drive, Concord, NH 03301.

The current PRISE Liaisons for 1984-85 are listed below. If you wish to request information, please contact the Liaison in your Intermediate Unit. (Special education approved schools, state schools and hospitals, and other special education facilities should contact PRISE directly 215/265-7321).

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Intermediate Unit 1
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Ms. Dixie Hayman
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Ms. Joyce Lentz
Elwyn Institutes
215/358-6487

Ms. Debby Hartman
Allentown School District
215/820-2051

Mr. Richard W. Moss
Souderton Area Schools
215/723-6061, Ext. 216

PRISE CENTER SERVES YOU

PRISE Searches Address Preschool Education

PRISE has prepared several literature searches on preschool education for handicapped children. The following topics are addressed:

- Evaluating Preschool Programs for Handicapped Children
- Demonstration Projects Serving Preschool Handicapped Children
- Serving Preschool Handicapped in Rural Areas
- Flay and Preschool Children
- Screening Preschool Children for Handicaps

If you are interested in receiving information related to any of the topics listed above, please contact your PRISE Liaison who will forward your request to PRISE, or call PRISE directly (215) 265-7321.

Readers Reply to PRISE Reporter Questionnaire

In an effort to obtain some feedback from its readers, questionnaires were mailed to all recipients of the **PRISE Reporter** in the spring of 1984. Readers were asked to note their general reaction to the most recent MR and LD issues of the **Reporter,** to rate the usefulness of various features of these issues, to identify two of the most useful items, and to note what they liked most and least. They were also asked to offer suggestions about making the publication more valuable, to indicate whether the **Reporter** led to their increased use of PRISE services, and to suggest topics for future lead articles. In addition, readers were to indicate with how many persons they share issues of the **Reporter,** their primary roles, and the type of class/school and the exceptionalities of the students with whom they work.

Of the 222 respondents, the majority (88%) felt the publication in general to be either very useful (48%) or useful (40%) to them professionally. The publication was praised for its "comprehensiveness" and for being "current," "informative" and "concise." The feature article was cited as being a great help by 79% of the respondents; the next most popular features were the research brief (rated as a great help by 58%), the descriptions of instructional materials (52%), tests or assessment instruments (48%), current citations (48%), and dissemination happenings (46%). The two sections rated as least useful were the descriptions of films/videotapes and the PRISE staff feature.

Most Respondents Affiliated with Public Schools

The majority of respondents were affiliated with special classes in public schools, and although the role most represented was teacher (45% of those completing the questionnaire), about an equal number of respondents were involved in administration or indirect service to handicapped students. The largest number of respondents indicated that they worked with learning disabled students (27%); 19% indicated that they worked with mentally retarded students, and an equal number worked with emotionally disturbed children. Speech or hearing handicapped students were the primary target population for 12% of the respondents. Low incidence conditions were the primary clients of a relatively small number of respondents: 8% indicated that they work with physically handicapped students, followed by 7% working with the visually handicapped, and 8% working with other health impaired or other categories not listed in the questionnaire. A total of 65% of the respondents, then, worked with learning disabled, mentally retarded, or emotionally disturbed students.

Many Share Reporter with Colleagues

A large percentage (74%) of respondents reported sharing their issue of the **Reporter** with other colleagues; of these, 39% indicated they shared the publication with three or more persons. Forty-one percent of the respondents indicated that the **PRISE Reporter** led to their use of other PRISE materials or services; about another 5% had previously used PRISE services.

Those items least liked by the respondents seemed to depend on their importance to the educator in his/her professional role. For example, those who could not or did not order or use tests, films, or instructional materials tended to cite those areas as least liked. Criticisms of the **PRISE Reporter** mentioned by more than one respondent included: lack of access to resources described in the newsletter, research briefs that were too brief to provide enough information on study results, and space limitations concerning the feature article or entire issue.

Specific suggestions for future feature articles by more than one respondent included computer applications, legal issues, recent research in reading, programs for LD adolescents, child abuse, meeting the needs of children from single parent families, behavior management, programs for preschool handicapped, new assessment techniques, and rehabilitation of juvenile delinquents. Partly in response to the results of the survey, current and future issues of the **Reporter** are addressing the themes of alternate assessment approaches, correctional programs for delinquents, and recent developments in reading instruction. One respondent suggested that feature articles should be written in "layman language suitable for presentation to regular teachers and parents."

The shift to a thematic emphasis in recent issues of the **Reporter** was appreciated by several respondents. One reader noted that the issue on teaching for generalization "applied to all special educators regardless of their expertise," and another suggested that we "continue to focus on one particular area." Several respondents suggested lengthening the feature article, the research brief, or the entire issue; others requested larger print. A number of readers suggested inclusion of more state or local happenings and new state/federal programs.

RESEARCH BRIEF

Study Explores Development of Symbolic Play

This study explores the nature of the development of symbolic play in visually impaired (VI) young children. Sixteen VI subjects, ranging in age from 18 months to 37 months, were administered both developmental and symbolic measures of performance. Developmental measures included a) the Reynell-Zinkin Scales, b) a set of object permanence tasks based on the writings of Fraiberg and Piaget, and c) a system to describe the child's communication of the word "no."

Symbolic probe measures were administered when the child demonstrated behaviors considered to be prerequisites for symbolic play: a) an understanding of the use of an everyday object, b) the motor skills necessary to put the object to proper use, and c) the ability to relate two objects (e.g., putting a spoon in a cup).

If the child completed the probe measures successfully, the child was taken through three scenarios, each involving a realistic, placeholder and counter-conventional condition. A scenario was first presented with conventional props, and the child was invited to model the scene. Then the same scene was repeated with a neutral substitute or placeholder for one key prop (such as a swizzle stick for a spoon), and finally with a

counter-conventional object (such as a baby shoe for a baby doll).

The results indicate that the VI youngsters who did not demonstrate symbolic acts did not differ from VI youngsters who did demonstrate symbolic acts, in terms of age, severity of visual handicap or knowledge of object permanence. There was a strong relationship between a child's ability to demonstrate symbolic acts and his or her ability to use the word "no." Furthermore, there was a perfect relationship between the presence of symbolic acts and the child's ability to use word combinations.

Three Conditions Analyzed

The three conditions presented in each scenario (realistic, placeholder, and counter-conventional) were analyzed in terms of their effects on scheme frequency (the number of modeled or unmodeled but meaningful schemes occurring in one condition); scheme diversity (the number of different schemes occurring in one condition); and number of sequences (two or more schemes linked together). No significant effects were found. However, a comparison of the performance of the VI youngsters to the performance of 30, twenty-month old nonhandicapped subjects indicated that the VI subjects showed significantly fewer schemes, less scheme diversity and fewer sequences. The only measure on which the two groups were similar was scheme frequency in the realistic condition.

While the VI subjects demonstrated considerable delays compared to their nonhandicapped peers, the authors' discovery of representational play in VI toddlers was unexpected. The indications are that preschool educators should look for beginnings of symbolic play in VI toddlers somewhere around the second birthday, as children begin to combine words and use "no" appropriately. Another unexpected finding was the strong relationship between the use of the word "no" and two-word utterances and the beginnings of symbolic play. It suggests that the emergence of symbolic play is closely tied to a) sensorimotor reversibility (i.e., to look at a cup and say "no milk" implies that you can also imagine the cup full of milk), b) to the verbal expression of an action-agent relationship (e.g., baby cry) and c) to the ability to combine two words in an utterance.

Rogers, S. J. & Puchalski, C. B. **Development of Symbolic Play in Visually Impaired Young Children.** *Topics in Early Childhood Special Education,* January 1984, 3(4), pp. 57-63.

CURRENT CITATIONS

Coker, Gary, ed. **Career Education.** (Special Issue), *Education of the Visually Handicapped,* Winter 1983, 14(4), pp. 1-143. This special issue of *EVH* takes a closer look at career education for the visually handicapped. The six articles discuss various aspects of career education, focusing on how successful it has been so far and what lies ahead in the future. The first article presents a brief history of the sixties and the seventies, while the second addresses career awareness; the third and the fourth chapters concentrate on career preparation and educational programs. The two final articles deal with rehabilitation research, educational services and teacher attitudes towards career education.

Jose, R. T. **Understanding Low Vision.** American Foundation for the Blind, 15 West 16th St., New York, NY 10011. 1983. 555 p. $18.00. The text presents an overview of the needs of people with low vision and of services available to them. Section I introduces background information on the eye and functional vision, on the psychosocial aspects of low vision and of aging and concomitant low vision, and on low vision rehabilitation service. Assessment of low vision is considered from an optometrist's viewpoint in the second section, while clinical services (examination, optics, treatment options) are explored in section III. The fourth section highlights aspects of training and instructional services, including establishment of a training program, distance and near training techniques, and training programs for individuals with restricted fields. The concluding section addresses such special considerations as assessment of multiply handicapped people, lighting assessment, and role models for orientation and mobility instructors and teachers of the visually handicapped.

Moore, S. **The Need for Programs and Services for Visually Handicapped Infants.** *Education of the Visually Handicapped,* Summer 1984, 16(2), pp. 48-57. This article presents a rationale for providing early intervention services to handicapped infants and discusses the reasons for providing these services in a home setting. It also considers the changes that a home-based program necessitates in the role of the teacher from direct to indirect service provider. In this situation, the teacher instructs the child through the parent and becomes the focal person in coordinating related services and communication between and among the child's family and members of the multidisciplinary team. A number of suggestions are presented for the administrator or teacher developing programming services for the home setting. They are intended to assist the teacher who has been trained to work in an academic setting to function effectively as an instructor in the home.

Smith, T. E. C., Smith, B. L. & Jacobson, W. H. **Providing Regional Consultant Services to Visually Impaired Children.** *Journal of Visual Impairment and Blindness,* February 1984, pp. 76-77, 94. The role of the regional consultant as a provider of indirect services to visually handicapped children in rural areas is described. Suggestions are provided for establishing rapport with school personnel, maintaining contact with school personnel, planning for effective use of time and providing inservice training.

Tuttle, D. W. **Self-Esteem and Adjusting with Blindness.** Charles C. Thomas, Springfield, IL 62717. 1984. 316 p. $29.75. The author analyzes blindness within the context of two overlapping theoretical constructs: the development of self-esteem, and the adjusting process to social and/or physical trauma. The book is divided into four sections. The first provides a brief overview of blindness, including an historical perspective of the status of the blind in society. Following this is a discussion of the implications of blindness for personal and home management, travel, recreation and vacations. The psychological implications of blindness are also considered, which may include such things as isolation and withdrawal, passivity and dependency. Section II addresses the manner in which one's self-concept and self-esteem are acquired and explores the ways in which blindness interacts with this process. Also discussed are sources of discrepancies between the self concept of visually impaired persons and how others perceive them, with suggested methods for resolving these discrepancies.

Section III contains a description of the various stages people go through in adjusting to a severe crisis or trauma, such as the first recognition of the social stigma of blindness. This process begins with shock and denial and progresses through mourning and withdrawal, succumbing and depression, reassessment and reaffirmation, coping and mobilization, and finally self-acceptance and self-esteem. Section IV is addressed to the professional and/or lay person who has frequent contact with the blind child or adult. It presents suggestions for creating a climate that will foster the development of a positive self-concept and strong self-esteem. The author's use of numerous examples to illustrate each of his points makes this book very readable.

TEST

Adaptive Performance Instrument – API is an assessment instrument for children functioning between birth and 2 years of age, and it is specifically designed to pick up the subtle and minute changes in a child's behavior. An important feature of the API is the adaptation of assessment procedures throughout the instrument for children with sensory and/or motoric handicaps, with specific guidelines for the blind and visually impaired. These adaptations permit a more comprehensive and accurate evaluation of children who, because of their visual, auditory or motoric handicaps, often have difficulty in responding to standard modes of presentation or responding in a specific manner. The API can be administered by classroom teachers, therapists and psychologists. Over 700 skills are assessed in the areas of: Physical Intactness, Reflexes and Reactions, Gross Motor, Fine Motor, Self-Care, Sensori-Motor, Social and Communication. An administration guide, three API skill books, and data recording forms are included in the assessment kit.

University of Idaho, Special Education Department, CAPE Project (Attention: Cathy Sarvis), Moscow, ID 83843. (208) 885-6159. Complete Kit $27.50.

INSTRUCTIONAL MATERIAL

The MBOSS-1 Braille Printer is designed for applications requiring high quality, continuous feed braille embossing. It makes available the capabilities of a highly reliable, 10 character per sound (cps) continuous farm feed table-top braille embosser.

MBOSS-1 offers consistent dot quality. It will emboss in Grade I, Grade II (using the appropriate software), or user selectable six (6) or eight (8) dot computer braille. Its continuous feed feature supplies maximum printout efficiency and permits unattended operation, as compared to single sheet feed braille embossers. The tractor feed on the MBOSS-1 is user-adjustable to accommodate continuous paper feed up to 13" wide, as well as providing eight (8) user-selectable impact levels to permit embossing on various weights of braille paper.

Equipped with a choice of either serial or parallel interface, one can connect MBOSS-1 to an Apple, IBM or other personal computer at school, at home, or to a terminal word processing work station on the job. It is simple to install, easy to use and requires no special commands or prompts. Audio alert signals inform the user of printer status functions such as margin settings and out of paper. Switches used to set various printer parameters, such as printer impact level, are easily accessible inside the front cover of the printer.

In an educational setting the MBOSS-1 will provide the teacher and blind student with quick and easy access to hard-copy braille information. It will provide the teacher with a convenient means to produce student materials embossed in braille. On the job, MBOSS-1 offers blind computer professionals an efficient, reliable and economical braille embosser for producing personal records or job reports, word processing documents, and programs. In addition, MBOSS-1 operates quietly within the norm of most printers in an office environment.

The developers of MBOSS-1 feel that with computers and word processors becoming increasingly integrated into the school and job setting, blind persons must have the same access to this equipment as sighted persons. The MBOSS-1 may provide an economical solution for those needing hard copy braille in the workplace, in school or at home.

VISUAL TEK, 1610 26th St., Santa Monica, CA 90404. 1985. $3,225.00.

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PROCESS ASSESSMENT: AN ALTERNATIVE MODEL FOR EVALUATING AND DIAGNOSING CHILDREN IN SPECIAL EDUCATION

Joel Meyers, Ph.D.
and
David Lieberman
State University of New York
Albany, NY

A Rationale for Change in Assessment Approach

The traditional approaches to assessment utilized in the field of special education yield little or no information indicating how to help children. Although general recommendations usually are indicated, rarely are specific ideas generated about how to change the child's behavior or promote learning in the classroom or at home. Most assessment techniques are more helpful in answering questions about placement and labeling than in prescribing academic and behavioral programs. As a result, many educators are frustrated in trying to successfully implement a multi-disciplinary team process which does not provide the kind of specific help they need. There has been a recent shift in the conceptualization of assessment which has the potential to produce meaningful recommendations so that educators and parents can provide realistic help for their students and children. The purpose of this article is to present a model of assessment which can be used by multi-disciplinary teams to develop specific intervention plans. We refer to this model as "process assessment."

Assessment-intervention link. One powerful strategy to broaden assessment is to stress the link between assessment and intervention so that there are clear implications for instructional decisions. While current approaches to assessment may do a reasonable job of answering questions about selection, prediction, and diagnosis/labeling, they are inadequate in determining specific intervention strategies. By including intervention as part of the assessment process, this limitation can be overcome.

Non-discriminatory assessment. Recent controversies regarding the alleged discriminatory nature of some assessment practices have resulted in an unfortunate, fruitless search by some educators for *the* non-discriminatory test. A more effective approach to this problem would be the development of a broader assessment model which focuses on interventions rather than labels. This would reduce bias by increasing the probability of effective intervention for all individuals.

Assessment tied to environment. Most assessment techniques consider the characteristics of the person while essentially ignoring the environment. Assessment approaches are needed which include observation of key environments, and in which the child is observed under various environmental conditions.

Assessing how children learn. Too often the product rather than the process of learning is evaluated, stressing IQ scores or grade equivalents. In contrast, recent work on information processing and meta-cognition provides a realistic basis for techniques which can determine *how* a person learns, and this has clear implications for intervention.

Process Assessment: A Brief Overview of the Model

The model for process assessment presented here is derived from a focus on the *task*, the *child* and the *environment*. Traditional models of assessment have evaluated the characteristics of the child while essentially ignoring the task and the setting. For example, tests of intelligence, academic achievement and personality all focus on particular characteristics of the child without considering environmental circumstances. In contrast, the process assessment model gathers data to describe each of the three factors (the task, the child and the setting). Once data have been gathered concerning these factors, the goal is to *assess the interactions* between the factors to determine effective interventions. A variety of techniques can be used in this stage of assessment, and two examples are **think aloud** approaches and **trial interventions.**

Think aloud approaches to assessment derive from recent work in information processing and meta-cognition. This work has been used to focus on children's learning strategies (e.g., the strategies they use to comprehend what they read). Also this approach has been used to assess performance anxiety by determining a person's negative self-statements, such as, "This is too hard," or "I am so dumb."

The idea behind think-aloud approaches to assessment is to encourage the child to verbalize his or her thoughts while solving a difficult problem. As the child does this, it is possible to learn a great deal about the child's problem-solving strategies for this particular task, and it is possible to learn about such interfering factors as anxiety.

Trial interventions are implemented after the following have occurred: 1) data are gathered relating to each crucial aspect of the child's functioning; and 2) hypotheses are developed regarding intervention strategies which consider the characteristics of the child, the task and the setting. Trial interventions may be attempted within the confines of the clinic, in the home, or in the classroom. This type of background information can be used as strong support for the conclusions and recommendations in a multi-disciplinary report. The following example illustrates the use of trial interventions.

Frances, a fifth grade girl, was evaluated because of poor school performance. A full scale WISC-R IQ of 109 revealed that Frances had at least average ability, and performance on the Key Math was at about a beginning 6th grade level. Reading performance on the Woodcock Reading Mastery Tests varied from a beginning 5th grade level in Passage Comprehen-

sion to a beginning 6th grade level in Word Comprehension. Even though Frances was motivated to perform well and worked hard, she appeared to make frequent careless errors. Also she seemed to become frustrated easily, which inhibited her logical problem-solving skills. When asked to think aloud while reading relatively difficult material, she frequently expressed anxiety about performance. She made such comments as, "I hate this!" or "When will we be finished?" rather than focusing attention on solving the problem.

As a result of these observations, trial interventions were attempted focusing on carelessness and anxiety. A brief training session was held during diagnosis in which the youngster was taught to check her work in order to reduce careless errors, and to use cognitive restructuring to control anxiety. Frances used cognitive restructuring when she "got mad" during academic tasks by instructing herself to "stay calm" and to "keep working logically." She was retested one week later with portions of the Key Math, the Woodcock and the WISC-R. Substantial improvements occurred. Division improved from 5.0 to 9.0 grade level; Passage Comprehension improved from 4.9 to 7.7 grade level; and Block Design and Object Assembly each improved by 3 scaled score points.

This approach advanced an important step beyond the traditional assessment. Rather than simply making recommendations regarding carelessness and anxiety, ideas for interventions were tried out during the assessment process. By checking the validity of the strategies, the assessing team gained confidence in its recommendations. Furthermore, the teacher was enthusiatic about trying techniques which had already been attempted successfully by the diagnostician.

Evaluation Format for Use with Process Assessment Model

This model of assessment is individualized to each child's unique characteristics, and consequently there can be no single "test" or "test battery" recommended for this approach. Nevertheless, there are some general guidelines for implementing evaluation within the process assessment model.

- **Global methods** are used initially to gather broad-based data concerning the setting, the child and the task. One of the techniques useful at this first level is to interview the teacher and to observe anecdotally in the classroom. Another such strategy might be to interview the family while observing its styles of interaction. These global data can then be used to formulate more detailed questions and hypotheses about specific characteristics of the setting, the task and the child.

- **Focused data collection strategies** can be addressed to the environment, the task or the child. When the **environment** is assessed there might be more systematic observation in the classroom, the clinic or even the home. This might include setting up structured situations in which to observe interaction between key people (e.g., ask the mother and child to play together and then clean up; or ask the family to plan a joint activity). Similarly, the classroom environment can be assessed with techniques such as Kounin's system for observing management strategies in the classroom.

Focused approaches to look at **task** characteristics can be implemented through task analysis or criterion referenced assessment procedures based on the child's curricular materials. Task analysis involves breaking down a complex task into its smaller parts. The examiner can then determine which parts of the task seem to cause learning difficulties, and this can be used as a basis for formulating specific hypotheses about how to teach the child.

As noted earlier in this article, focused assessment approaches can also be used to assess the **child**, using standardized norm-referenced tests to assess intellectual, perceptual-motor, academic and/or social-emotional functioning. A helpful adjunct to these focused techniques might be to ask the child directly about his or her performance (e.g., how a solution was arrived at), to ask the child to think aloud about those aspects of performance that prove to be difficult, or to have a parent or teacher observe the child during assessment to get additional feedback about the child.

- **Testing interactive hypotheses** is the last phase of assessment using this model. The diagnostician generates detailed hypotheses that have implications for potential interventions, which are then tested by using such strategies as trial interventions and diagnostic teaching. These strategies can be implemented by the diagnostician in the testing setting as noted in the prior example, by the teacher in the classroom, or by the family in the home. To the degree that it is practical, this process is continued until there is a sufficient data base to support the recommendations which will be made.

This process assessment model presents a framework to reconceptualize the assessment process. Rather than relying on specific tests, it requires practicing diagnosticians to employ both their skills and their professional judgement. While it offers one potential model for changing assessment, it is up to practitioners to take the difficult steps necessary to implement this sort of approach.

Joel Meyers is Professor in the Department of Educational Psychology and Statistics, and Director of the Programs in School Psychology at the State University of New York at Albany. He has published numerous books, articles and book chapters on the delivery of psychological services in schools. Much of his work has focused on mental health consultation in schools, and alternative approaches to psycho-educational assessment. Meyers is currently President of the Division of School Psychology of the American Psychological Association.

David Lieberman is a graduate student in the Certification Program in School Psychology and a Research Assistant at the State University of New York at Albany. His interests focus on successful learning strategies and their implementation with special education populations.

INSTRUCTIONAL MATERIAL

The **CoRT Thinking Program** was developed by Dr. Edward de Bono whose work on lateral thinking is internationally known and respected. **CoRT** is based on the philosophy that thinking skills, like many other skills, can be greatly improved with training. The program has been successfully used for a number of years over a wide range of ages (6 years to adult) and abilities (IQs 75-140).

CoRT contains six units (ten lessons per unit), each of which covers one broad area of thinking, such as creativity, organization and interaction. It is intended that the program be used once a week over a period of two school years, with the weekly lesson lasting from 35 - 70 minutes. Each lesson focuses on the deliberate recognition, development and application of a specific thinking skill/tool. The following format is used for each lesson:

- Introduction: explains the particular aspect of thinking covered in that lesson and gives an example.
- Practice: provides problems and situations for the practice of thinking.
- Process: open class discussion of the aspect of thinking that is the subject of that lesson.
- Principles: gives five basic principles concerning the subject of the lesson for the groups to examine and comment upon.
- Project: provides further problems and thinking situations which can be tackled at the time or later.

The program includes a teacher's guide for each unit, student workcards (Units I to V) and a student text (Unit VI).

Pergamon Press, Fairview Park, Elmsford, NY 10523. 1973. Set of 6 Teacher's Guides $63.45; Set of 500 Workcards and 10 Student Texts $110.00.

CURRENT CITATIONS

Narrol, H. G. & Giblon, S. T. **The Fourth "R": Uncovering Hidden Learning Potential.** PRO-ED, 5341 Industrial Oaks Blvd., Austin, TX 78735. 1984. 168 p. $16.00. This book popularizes the theories and methods of Reuven Feuerstein on cognitive modifiability with adolescents labeled "retarded" or "learning disabled." Among the topics discussed are the following:

- Feuerstein's theory of hidden learning potential as it relates to children usually considered incapable or unable to develop cognitively or educationally;
- Feuerstein's approach to the assessment of cognitive potential including a description of the Learning Potential Assessment Device (LPAD);
- Feuerstein's instructional program for cognitive remediation, *Instrumental Enrichment*, including numerous examples from the more than 500 pages of paper-and-pencil exercises that comprise the program; and
- the various categories of children for whom the program is designed.

The Fourth "R" is written in clear, nontechnical language and provides an excellent introduction to Feuerstein's theories and practices.

Ysseldyke, J. E., ed. **School Psychology: The State of the Art.** National School Psychology Inservice Network, University of Minnesota, 350 Elliott Hall, 75 East River Road, Minneapolis, MN 55455. 1984. 296 p. $12.00. This volume is a collection of sixteen papers describing the knowledge base in a number of areas related to instructional psychology and special education. Topics covered include assessment, classroom management, school consultation, basic academic skills, basic life skills, social skills assessment and training, parent involvement, classroom organization and social structures, systems development and planning, personnel development, individual differences in development and learning, school-community relations, instruction, legal/ethical issues, multicultural concerns, and research.

Zigmond, N., Vallecorsa, A. & Silverman, R. **Assessment for Instructional Planning in Special Education.** Prentice-Hall, Inc., Englewood Cliffs, NJ 07632. 1983. 385 p. $26.95. This book offers educators practical guidelines for planning and implementing assessment for instructional planning. The authors stress the importance of such an assessment since it can assist the teacher in making effective and efficient decisions about what and how to teach an individual or group of students. They outline a clear and systematic procedure for where and how to begin, guidelines for selecting or developing assessment instruments, techniques for interpreting assessment findings, and methods for organizing and managing the assessment procedure within the day-to-day realities of elementary and secondary schools. The procedures are adaptable for use with any underachieving student, regardless of handicapping condition.

Part I of the book provides a theoretical foundation, introducing the principles which underlie the authors' approach and discussing the characteristics of good tests and techniques for interpreting test results. A 12-step assessment strategy is described, and Part II puts theory into practice by applying the 12-step strategy to major skill areas. Using numerous case studies to illustrate the approach, the authors present detailed applications for reading, written expression, mathematics, learning styles, interest, and motivators.

Part III addresses the problems of organizing and managing the assessment strategy within a classroom, a self-contained class or a resource room. Throughout the text are found numerous sample recordkeeping forms which can be reproduced for teacher use. Teacher-made tests are also included for possible replication.

TEST

The **Scales of Independent Behavior (SIB)** is an individually administered measure of functional independence and adaptive behavior. Each of the **SIB's** four adaptive behavior clusters includes from two to five subscales: the Motor Skills Cluster (gross motor, fine motor); the Social and Communication Skills Cluster (social interaction, language comprehension, language expression); the Personal Living Skills Cluster (eating and meal preparation, toileting, dressing, personal self-care, domestic skills); and the Community Living Skills Cluster (time and punctuality, money and value, work skills, home-community orientation).

A Broad Independence Cluster (Full Scale) is based on the results of all 14 of the above subscales; a Short Form, which can be used for adaptive behavior screening, contains 32 tasks selected from all of the subscales. In addition, an Early Development Scale can be used with subjects whose developmental level is below approximately two and one-half years, and consists of 32 tasks from 12 of the **SIB** subscales. A Problem Behavior Scale asks the respondent to indicate the frequency of occurrence and severity of eight observable problem behaviors, and to indicate how the problem behavior is usually managed.

The **SIB** is typically administered in a structured interview with a respondent, such as a parent, caregiver, or teacher, who is well acquainted with the individual's daily behaviors. Administration of the full 226-item battery typically takes about an hour; the Short Form and Early Development Scales each take about 10 to 15 minutes. Items are arranged in order of difficulty, and basal and ceiling levels are used. Respondents are asked to rate on a four-point scale the subject's ability to perform a task (e.g., washes, rinses, and dries hair) without help or supervision. Interviewers need not have extensive training in interview test administration, but can learn the procedures through self-study.

Many Disabilities Included in Data

The **SIB** was standardized on 1,764 subjects ranging in age from infancy to 40+ years, widely distributed throughout the United States. The norming sample did not specifically include handicapped students unless they were being educated in regular education programs, but additional technical data were obtained on approximately 1,000 handicapped and nonhandicapped subjects. Included were learning disabled children and adolescents; behavior disordered children and adolescents; hearing impaired children and adolescents; mildly retarded children, adolescents, and adults; high ability adolescents and adults; and moderately to severely retarded children, adolescents, and adults.

A special equating study permits comparison of performance on the functional independence portion of the **SIB** with scores of cognitive ability from the *Woodcock-Johnson Psycho-Educational Battery*. This procedure allows evaluation of the subject's independence in adaptive behavior in relationship to his/her age *and* intelligence.

The **SIB** yields age scores, percentile ranks, standard scores, stanines, and normal curve equivalents to permit normative comparisons; instructional ranges, relative performance indexes, and functioning levels to assist in instructional planning; and expected age scores, expected cluster scores, and percentile ranks based on age and cognitive ability to adjust adaptive behavior functioning for age and intelligence.

Bruininks, R. H., et al. **Scales of Independent Behavior.** 1984. DLM Teaching Resources, One DLM Park, P.O. Box 4000, Allen, TX 75002. Complete **SIB** Program (test book, examiner's manual, 25 response booklets) $99.00; manual on development and standardization of the **SIB**, $18.00.

DISSEMINATION HAPPENINGS

National Diffusion Network

The following program is available for adoption or adaptation through the National Diffusion Network (NDN). For further information on this or other NDN programs, Pennsylvania educators should contact the State Facilitator, Research and Information Services for Education (RISE), 725 Caley Road, King of Prussia, PA 19406. Telephone, 215/265-6056.

Living Independence Training is a program designed to enhance the daily living skills of retarded students through a group teaching approach. The curriculum provides for daily teaching in the following seven self-care areas: hair-care, handwashing, eating, toileting, toothbrushing, bathing, and dressing. Each activity contains five "Molar Steps" through which a student logically progresses in completion of the task.

"Molar Task" instructions are short and concise so as to be easily understood by the learner and easily remembered by the trainer. Teacher/trainers are provided with response definitions which specify the criteria that must be met for each task. This ensures that every trainer expects the same standard of performance. Students are heterogeneously grouped by independence levels within small groups determined by the physical environment, allowing teachers to supervise various levels simultaneously.

RESEARCH BRIEF

Study Examines Method for Identifying Learning Problems

The *zone of proximal development* is defined in this study as, "the distance between the level of performance that a child can reach unaided, and the level of participation that she or he can accomplish when guided by another, more knowledgeable individual." This study was designed to examine how distinguishing between the child's actual development level (measured by unaided performance on standard ability or achievement tests), and the child's level of potential development (performance achievable with assistance) can help identify children who are likely to have problems acquiring and applying information.

Mildly retarded and nonretarded children of approximately the same mental age (10.5 years) were taught to solve various types of problems requiring them to detect and apply certain rules. All students reached the mastery level, defined as independent, unaided problem solution. The students were then given a series of transfer problems to solve: maintenance items, which were new examples of the problem types they had already learned; near transfer items, which involved the same rules or principles in new combinations; and far transfer items, which required using a new but related rule in addition to the old ones. Examiners recorded how many hints the students needed to solve the different types of transfer problems. Although the nonretarded students required almost no hints to solve the maintenance problems (the same problem types randomly ordered), the retarded students had considerably greater difficulty. The retarded students had even greater difficulty than the nonretarded students when maintenance problems were interspersed with new transfer problems, or when they were asked to solve problems requiring the use of rules in combination.

The authors suggest that one reason for retarded children's failure to use information flexibly is their difficulty in identifying new examples of known problem types that are not clearly marked by context. The authors also found that dynamic measures were superior to static measures (such as most assessment instruments) in predicting how much young children would profit from instruction. Estimates of the ease with which individual students responded to instruction and, to a greater degree, the extent to which they displayed evidence of transfer of learned skills, predicted the children's success for longer-term improvement.

Campione, J. C., et al. **The Zone of Proximal Development: Implications for Individual Differences and Learning.** *New Directions for Child Development,* 1984, no. 23, pp. 77-91.

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TRANSITION SERVICES FOR HIGH FUNCTIONING PHYSICALLY DISABLED STUDENTS

Richard P. Melia, Ph.D.
National Institute of Handicapped Research
Washington, DC

Meg Cauffield grew up in Fairfield Township, West Moreland County, PA, near Johnstown and Ligonier, in the 1930's and 40's. Meg has osteogenesis imperfecta, a brittle-bone genetic disorder, and has never attended a day of school. She was educated at home by her mother and father. Meg's entry into the world of work came about through her experience with ham radio. Her minister had suggested that "hamming" would increase Meg's contact with people and provide a constructive outlet for her creativity. Her radio contacts led to vocational rehabilitation and a 15-month residence at Woodrow Wilson Rehabilitation Center in Virginia, the only formal education she ever received. After graduation, Meg moved to Washington, DC, where she became a secretary with the Office of Vocational Rehabilitation.

Today, some 27 years later, Meg is recognized for her leadership in assisting persons with OI and their parents. She organized "Osteogenesis Imperfecta - National Capital Area, Inc.," an advocacy and self-help organization active in the District of Columbia area. Last year Meg was honored by the Assistant Secretary of Special Education and Rehabilitative Services, Madeleine Will, as the OSERS employee who best exemplifies the spirit of advocacy and concern shown by the late Mary E. Switzer, a long-time federal Commissioner of Rehabilitation. Meg received the award at the annual meeting of the National Rehabilitation Association in Atlanta, Georgia.

How is Meg's story relevant to an article intended to explain developments in improving the transition from school to work for the "higher functioning physically disabled student?" I think there are some lessons and ideas from Meg's experience to help us as we look at the transition needs today of many students in our schools.

Changes in educational practices and law have opened educational opportunities for students who have severe physical impairments. Less than 7 percent of all special education students fall into the more obvious "physical" categories (including orthopedically handicapped, chronic health impaired, or multihandicapped), and these groups have declined in actual numbers enrolled as well as percentage of all special education students. Yet, each year many students complete school without any specific plan for their continuing education or for entering employment, while others enter jobs far below their capability. What are some of the factors, beyond a personal outreach such as Meg experienced, which might enhance the school-to-work transition for students who have substantial physical impairments? What are the unanswered questions, the unresolved problems?

New Transition Models Raise Issues and Require Changes

> "The transition from school to working life is an outcome-oriented process encompassing a broad array of services and experiences that lead to employment. Transition is a period that includes high school, the point of graduation, additional post-secondary employment . . . The present definition emphasizes the shared responsibility of all involved parties for transition success, and extends beyond traditional notions of service coordination to address the quality and appropriateness of each service area."

(This statement by Madeleine Will is taken from *Bridges from School to Working Life,* Office of Special Education and Rehabilitative Services Policy Statement, 1984).

The above stated approach to transition asks a great deal of educators, employers, parents, students, and rehabilitation staff. When the transition plan for a severely physically handicapped student starts with the assumption that employment is the goal, and that success will be measured long after graduation based on the appropriateness of the job obtained, many questions arise. What work experiences will be provided during school? Who will advocate for the student, provide the exposure to work? How are needs to be met for residential placement, income support, transportation, medical needs, insurance? Who will develop the jobs and modify the tasks so that the individual with limited functional capacity can perform them?

The disabled students themselves are not the only people experiencing new role transitions. Their teachers, rehabilitation counselors, vocational evaluators, job analysis specialists, and employers are also being asked to "transform" their roles. They must make a transition to new ideas and methods of implementing them. For some there will be new concepts with a new vocabulary to learn about, such as work experience, shadowing, mentor programs, cooperative education, job analysis, task analysis, job coaching, staff fading, job restructuring, rehabilitation engineering, job accommodation, transitional employment, and supported employment.

Organization theory indicates that how workers react to role transitions involves the interaction of organizational ad-

PRISE Addresses Topic of Transition

PRISE is developing a file of literature on **Transition Services.** If you are interested in receiving information about this topic or have information to share with PRISE, please contact your PRISE Liaison, who will forward your request to PRISE, or call PRISE directly (215) 265-7321.

justment outcomes and personal characteristics of staff, role expectations, and the type of organization.[1] Research reviews and consensus seminars conducted by OSERS confirm that staff role transformations are often necessary to improve school-work transition for students with disabilities. When we set as our goals meaningful careers for students who until relatively recently were not expected to work, we are in large part dealing with basic management problems of motivating staff, communicating effectively, using knowledge efficiently, introducing innovations, and evaluating outcomes. Role transformations, as well as new people in new roles, are required for educators, parents, employers, and rehabilitation personnel.

New Themes and New Tools Offer Opportunities and Support

Fortunately, those of us faced with the challenges and complexities of career preparation, career initiation, and career enhancement for severely handicapped students do not have to confront alone these raised expectations of outcome-oriented transitions. Numerous resources are available as well as a number of effective programs. The literature is increasingly addressing the "how to" aspects of program development. More and more organizations such as PRISE can provide custom data searches. The National Institute of Handicapped Research (NIHR) funds the **REHABDATA** computerized listing of rehabilitation research and literature and the **ABLEDATA** computerized listing of rehabilitation aids and devices at the National Rehabilitation Information Center **(NARIC)**. The **ECER** and **ERIC** data bases are excellent sources of information. The Job Accommodation Network **(JAN)** at the West Virginia University Rehabilitation Research and Training Center is a computerized clearinghouse with almost 4,000 ideas for accommodating handicapped employees.

Among the most promising approaches for assisting physically handicapped students to make the transition to work are those which use transitional employment preparation **(TEP)** concepts. TEP programs emphasize learning the job in the actual setting where it will be performed. Assistance at the job site is provided by a job coach or trainer with special competencies in analyzing tasks, demonstrating tasks to the employee, devising accommodations, and advocating for the employee with co-workers, supervisors, and family members. Examples of TEP programs include the **Projects With Industry** program sponsored by the Rehabilitation Services Administration, and such community programs as **Job Path** in New York City and **Bay State Skills** in Boston.[2]

Many educators and parents are looking toward "supported employment" as a possible employment outcome for severely handicapped persons who require ongoing services after entering work. Supported employment can be in many forms: a work team, bench work, an enclave in an industrial setting, homebased work, or a dispersed work site. The major distinguishing characteristic of supported employment is sustained assistance with public support so that employment is maintained. The Human Resources Center at Albertson, New York, is examining how supported employment approaches can be used with physically disabled students with special emphasis on high-tech jobs.[3]

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It would require far more space than is available for this overview to delve into the new vocabulary of accommodation at the worksite and to explain how job coaches and other direct service personnel at the worksite break down a job and restructure it for severely handicapped employees. One cannot, however, review a bibliography of recent articles and books on work transition without finding numerous reports on the accomplishments of new partnerships between unions, industry, agencies, schools, parents, youth and adults with disabilities, and others who are developing the new themes and tools needed for effective transitions.

There are still many unanswered questions. We need to do more on the next steps of evaluating the effectiveness of our work, doing the longitudinal studies, and providing the technical assistance and competencies required for those in role transformations who provide these new services. In addition, we cannot forget the social and community needs in areas such as recreation, leisure, independent living, personal care, and housing. Perhaps we still have more questions than answers, but these are exciting times and progress is being made.

[1] Nigel Nicholson. **A Theory of Work Role Transitions**. *Administrative Science Quarterly*, 29 (1984), pp. 172-191.

[2] OSERS has prepared a summary of a meeting held on July 16, 1984, to discuss "Transitional Employment Programs." Copies of this summary are available from PRISE.

[3] An OSERS meeting held in April, 1984, addressed "Planning for Supported Employment." A copy of the summary of this meeting is available from PRISE.

DISSEMINATION HAPPENINGS

PROGRESS (Providing Realistic Opportunities for Gainful Rehabilitative Employment Success in Society) is a school-to-work transition project operated by the Association for Retarded Citizens, Centre County, PA, and funded by the U.S. Department of Education. It provides a competitive work skills training and placement program for handicapped students (TMR, EMR and LD), ages 16-21. Cooperating in the activities of **PROGRESS** are the State College Area School District, the Central Intermediate Unit #10 and the Office of Vocational Rehabilitation. **PROGRESS** receives referrals to its program from special education teachers. Students are then evaluated using the VACG (Vocational Assessment Curriculum Guide) Inventory. A comprehensive job station analysis is developed for each work site which identifies essential skills necessary for worker success, establishes a prompting hierarchy for promoting worker performance in deficit skill areas, and suggests modifications in the work site to enhance student participation and success.

Each student is accompanied to the work site by a job coach who remains with him or her until the student meets three criteria: 1) the student no longer requires any prompts in order to complete the job successfully; 2) there are no disruptive situations which might occur; and 3) the employer

doesn't need to do any more or any less for the handicapped employee than for any other employee. Each student's job coach and special education teacher meet on a regularly scheduled basis to coordinate their efforts to help the student achieve educational and vocational goals.

More information is available from Eileen Lang, Project Director. Call (814) 238-1444 or write to **PROGRESS**, 305 South Burrowes St., State College, PA 16801.

National Diffusion Network

The following program is available for adoption or adaptation through the National Diffusion Network (NDN). For further information on this or other NDN programs, Pennsylvania educators should contact the State Facilitator, Research and Information Services for Education (RISE), 725 Caley Road, King of Prussia, PA 19406. Telephone, 215/265-6056.

Slice of Life is a vocational program designed for special education students in grades 9 - 12. The goal of the program is to assist students in developing to their maximum those skills which would make them employable. The program contains four components: career education instruction, career/vocational assessment, vocational training, and vocational placement.

The **Slice of Life** instructional kit includes 75 distinct tasks which are spaced over a period of four years. Twenty-five of these tasks are repeated one to three times during the program to reinforce learning and increase proficiency in critical areas. The kit includes a bibliography of supplementary materials, reproducible worksheets, sample forms, and a student vocational record card format. The curriculum, which covers all of the pertinent skills needed for work readiness, can be infused into existing English, math, or social science coursework or can be taught independently. Self-paced instruction allows for an individual rate of progress for each student. Students participating in the program demonstrate a statistically and educationally significant improvement over control groups, in their awareness of jobs as measured by the Job Awareness Inventory.

RESEARCH BRIEF

Study Explores Provision of Postschool Services

The purpose of this study, **Postschool Placements: Planning for Public School Students with Developmental Disabilities,** was to assess the existing level of coordination between 3 Washington State school districts and the State Division of Developmental Disabilities (DD) in providing postschool placements for eligible handicapped students. The procedures consisted of 3 parts: 1) structured interviews of relevant school district and DD personnel; 2) a file review of students suspected of being DD-eligible; and 3) interviews with parents of presumed eligible students.

In the first part, the results indicated a complete consensus from the interviews with school and DD program staffs that no *formal* contacts now exist between the two entities. The two groups exchanged information on an as-needed basis. In general, teachers made recommendations to parents, who then requested DD services. All three DD regions reported that the primary reason to contact the schools for information was to collect assessment data for eligibility and that there was minimal involvement in planning for postsecondary services prior to graduation.

The file review of students revealed a total of 642 students, 16 years and older, to be enrolled in special education programs. Of the 642, 18.7% were considered by the researchers to be eligible for DD program services, and 23% of those had notations in their school records of contact with the Division.

In the third part of the study, a letter was sent to parents of students determined eligible for DD services to ask if the child was receiving service, and DD was contacted to verify the information. Approximately 50% of the DD eligible students, age 16 years and older, were not active clients of DD. The study discovered that two indicators were used to quickly determine DD eligibility: IQ and special education classification based on handicapping condition.

The researchers did not find consistent methods being used for moving developmentally disabled persons from the public schools into appropriate community services, although all those interviewed agreed that formal and earlier contact between the schools and DD case workers would improve the quality of programming. The following information revealed by the study highlighted areas of concern: 1) an estimated 50% of the DD-eligible secondary students were unknown to the Division; 2) a large majority of parents (62%) were uninformed about available resources; 3) a usable data base with pertinent eligibility information needed for planning was lacking; and 4) there is a need for formalized, efficient procedures for placing eligible students in postschool programs. In general, the researchers point to a need for both schools and service agencies to make an administrative commitment to engage in systematic planning activities, and for yearly in-service training to update both staffs.

Edgar, Eugene; Horton, Bonnie & Maddox, Mary. **Postschool Placements: Planning for Public School Students with Developmental Disabilities.** *Journal for Vocational Special Needs Education,* 1984, 6(2), pp. 15-18, 26.

INSTRUCTIONAL MATERIAL

Nuts and Bolts, a microcomputer vocational training system, uses the isometric projection exploded-view drawing concept to teach assembly skills to mentally handicapped adolescents and adults. There are 25 assembly tasks included, with assemblies varying from simple to complex. Each assembly sequence is graphically illustrated through the use of high resolution graphics coupled with instructions presented through a speech synthesizer. (The program will also run without a speech synthesizer.) For each assembly task there are three fundamental branching/skill levels, designed to meet the needs of students of varying abilities.

The program consists of nine floppy disks, two assembly trays, associated hardware for the assemblies, laminated match-to-sample cards, number sequencing, and color matching of each compartment in the assembly tray to the computer screen. Also included are hand tools, two industrially related final assembly tasks, laminated exploded-view drawings, tool box, portable package case, technical manual and instructor manual. System requirements include 1) Apple II+ or IIe Microcomputer (48 K); 2) one disk drive; 3) monitor (color monitor optional); and 4) Echo II Speech Synthesizer (optional).

Nuts and Bolts was developed as a result of research conducted in 1980 on the use of isometric projection exploded-view drawings to teach assembly skills to 537 mentally handicapped students in the Chicago metropolitan area. Approximately 85% of the students met or exceeded the achievement criterion utilizing this type of program.

The Conover Company, P.O. Box 155, Omro, WI 54963. 1984. $795.00 (Complete Kit).

CURRENT CITATIONS

Halpern, A. S. & Fuhrer, M. J., eds. **Functional Assessment Rehabilitation.** Paul H. Brookes Publishing Co., P.O. Box 10624, Baltimore, MD 21204. 1984. 272 p. $23.95. This book presents a selective review and analysis of work that has been done in the United States on the topic of functional assessment in rehabilitation. It contains 15 chapters, written by 36 contributors who are experts in the field, and grew out of a 1983 conference sponsored by the National Association of Rehabilitation Research and Training Centers in Eugene, Oregon. Chapter 1 provides a complete historical overview of the field of functional assessment in rehabilitation. Chapters 2 through 5 present reviews of functional assessment within specific areas of concern: physical impairments, mental retardation, psychiatric impairments, and communicative disorders. The remaining chapters provide reports of a representative sample of specific research endeavors in the field, with the last chapter focusing on functional assessment from the perspective of the rehabilitation client being evaluated. The research reported in the book represents the state-of-the-art and addresses a definition of functional assessment, clarification of its content, and a classification scheme as a structure for understanding the field as a whole. Intended audiences include policy makers, program planners and evaluators, service providers, researchers, and clients who wish to assume a more active role in their rehabilitation.

National Institute of Handicapped Research, U.S. Department of Education. **Report on Cooperative Programs for Transition from School to Work.** Prepared by Harold Russell Associates. (A summary of this report is available through PRISE.) This report documents a study of exemplary practices in coordinating special education and vocational rehabilitation services. Since it is well documented that interagency collaboration is necessary to assist disabled youth in moving from a school into competitive employment, NIHR commissioned a study to provide information on how successful cooperative programs are structured, how they operate and what services they provide. This report describes the data collection phase of the study, which includes a literature review, development of criteria for exemplary programs and a nine-state field study of nine operating programs. Section I compares various program elements and contains a general discussion of findings and trends. The second section contains study reports on the model field sites visited, which included interviews with participants on all levels as well as reviews of such documents as project descriptions, budget information, interagency agreements, evaluation materials and training materials.

TEST

The **Battelle Developmental Inventory (BDI)** is a standardized, individually administered assessment battery of key developmental skills in children from birth to eight years. Primarily designed for use with infant, preschool, primary and handicapped youngsters, the **BDI** consists of 341 test items grouped into the following five domains: Personal-Social, Adaptive, Motor, Communication, Cognitive. The **BDI** also includes a Screening Test consisting of 96 of the 341 test items. Within each of the five domains, the items are further grouped by specific skill area, e.g., the Motor Domain includes muscle control, body coordination, locomotion, fine muscle and perceptual motor.

The **BDI** employs three procedures for obtaining information: Structured Administration, Observation, and Interview. Examiners are encouraged to use the procedures that will yield the best data. The Screening Test can be administered in 10 to 30 minutes depending upon the age and ability of the child; administration time for the entire **BDI** ranges from one-half to two hours. The **BDI** was standardized on a nationwide sample of 800 children stratified by geographic region, age, race, and sex. Test results may be reported as percentile ranks, standard scores, and age equivalents. Data on test/retest reliability, interactive reliability, content and construct validity are reported. The test kit consists of a manual, six separate test books (one for each domain and one for the Screening Test) and a separate envelope labeled *Visuals*.

Newborg, J.; Stock, J. R.; Wnek, L.; Guidubaldi, J.; & Svinicki, J. **Battelle Developmental Inventory (BDI).** DLM Teaching Resources, One DLM Park, Allen, TX 75002. 1984. Complete Kit $120.00.

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